IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re U.S. Application of:

Applicant(s): Ikeda et al.

Serial No.: 10/786,840

Conf. No.: 2955

Filed: February 25, 2004

For: MAGNETIC FILM FOR MAGNETIC HEAD

Art Unit: 1773

Examiner: Bernatz, Kevin M.

I hereby certify that this paper is being deposited with the United States Postal Service as FIRST-CLASS mail in an envelope addressed to: Mail Stop Appeal Brief - Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this date.

April 12, 2007
Date

Registration No. 47,954
Attorney for Applicant(s)

Mail Stop APPEAL BRIEF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL

Dear Sir:

Transmitted herewith is a communication regarding the above-identified application.

(X) **Appellant's Brief on Appeal Under 37 C.F.R. 1.192** (in triplicate), with check for the requisite fee under 1.17(c) for $500.00. (Notice of Appeal previously filed on February 8, 2007).

(X) If a Petition under 37 C.F.R. 1.136(a) for an extension of time for response is required to make the attached response timely and does not separately accompany this transmittal, Applicant(s) hereby petition(s) under 37 C.F.R. 1.136(a) for an extension of time for response in the above-identified application for the period required to make the attached response timely.

(X) The Commissioner is hereby authorized to charge any additional fees which may be required to this application under 37 C.F.R. 1.16-1.17, or credit any overpayment, to Deposit Account No. 07-2069. A duplicate copy of this sheet is enclosed.

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Respectfully submitted,

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2309.69884

PATENT

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Appellant(s): Ikeda et al.	)
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APPELLANT'S BRIEF ON APPEAL
UNDER 37 C.F.R. 41.37 AND MPEP 1205.03

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APPELLANTS' BRIEF ON APPEAL
UNDER 37 C.F.R. 41.37 AND MPEP 1205.03

Mail Stop APPEAL BRIEF - PATENTS
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This Appeal Brief is in support of Appellants' Notice of Appeal dated February 8, 2007, from the final rejection dated August 8, 2006.

APPEAL BRIEF

REAL PARTY IN INTEREST

The real party in interest in this case is Fujitsu Limited, 1-1, Kamikodanaka 4-Chome, Nakahara-ku, Kawasaki-shi, Kanagawa, 211, Japan. An assignment of the Application to the real party of interest has been recorded on Reel 015023, Frame 0180.

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences which will directly affect, be directly affected by, or have a bearing on, the Board's decision in this pending appeal.

STATUS OF CLAIMS

This Application was originally filed with sixteen (16) numbered claims. During prosecution, claims 3-6, 8, 9, and 11-16 were cancelled without prejudice, claims 17-20 were added, and claims 1, 2, 7, and 10 were amended. Claims 1, 2, 7, 10 and 17-20 are pending, and all of claims 1, 2, 7, 10, and 17-20 stand rejected. A rejection of these claims is herein appealed. Claims 1 and 17 are the only pending independent claims. Claims 2, 7, and 10 depend directly from claim independent claim 1. Claims 18-20 all depend directly from claim 17.

STATUS OF AMENDMENTS

Response B, filed November 8, 2006, has been entered for purposes of appeal.

Amendment A, filed May 16, 2006, has been entered.

SUMMARY OF THE CLAIMED SUBJECT MATTER

Independent claim 1 of the present invention is drawn toward a laminated magnetic film for a magnetic head that includes a nonmagnetic layer (20, Figs. 15A-C, for example) that includes at least one element selected from a group consisting of Ru, Rh, Ir, Cu, Au, Ag, Pt and Pd (see page 9, lines 10-13 of the present Specification, for example), and a magnetic layer (18) including Fe and Co (see page 8, lines 22-28 of the present Specification, for example), and also where an anisotropy magnetic field is 0.8 kA/m or more (see page 5, lines 1-2 of the present Specification, for example; see also page 9, line 23, and page 10, lines 8-11, 24-27; Figs. 2-3).

Independent claim 17 of the present invention is drawn toward a multilayered film for a magnetic head that includes two or more nonmagnetic layers (20), and two or more magnetic layers (18). (See Figs. 15A-C, for example). Each of the nonmagnetic layers includes at least one element selected from a group of Ru, Rh, Ir, Cr, Au, Ag, Pt and Pd (see page 9, lines 10-13 of the present Specification, for example), each of the magnetic layers includes Fe and Co (see page 8, lines 22-28 of the present Specification, for example), and a saturated magnetic field of the film is 0.8 kA/m or more. (See 9, line 27, for example).

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

All of the following grounds of rejection are to be reviewed on appeal: (1) The rejection of claims 1-2, 7, and 10 under 35 U.S.C. 112, first paragraph for being nonenabled; (2) the rejection of claims 17-18 and 20 under 35 U.S.C. 102(a) and/or 102(b) as being anticipated by Katada et al. (IEEE Trans. Mag., 38(5), 9/2002, 22, 25-22, 27), in view of Intermetallic Compounds, vol. 4, pages 31-33 (John Wiley & Sons, 2000); (2) the rejection of claims 17-18 under 35 U.S.C. 102(b) as being anticipated by Iwasaki et al. (U.S. 5,587,026); (3) the rejection of claims 1 and 17 under 35 U.S.C. 102(b) as being anticipated by Saito et al. (U.S. 5,304,975); (4) the rejection of claim 18 under 35 U.S.C. 103(a) as being unpatentable over Iwasaki in view of Osaka et al. (U.S. 6,063,512); (5) the rejection of claim 19 under 35 U.S.C. 103(a) as being unpatentable over Iwasaki in view of Kamiguchi (U.S. 6,303,218) and Inoue et al. (U.S. 2002/0187565); (6) the rejection of claim 20 under 35 U.S.C. 103(a) as being unpatentable over Iwasaki in view of Sun et al. (IEEE Trans. Mag., 36(5), 9/2000, 2506-2508); (7) the rejection of claims 2, 10, 18, and 20 under 35 U.S.C. 103(a) as being unpatentable over Saito in view of Osaka and Sun; and (8) the rejection of claims 7-19 under 35 U.S.C. 103(a) as being unpatentable over Saito in view of Kamiguchi.

ARGUMENT

I. THE REJECTION OF CLAIMS 1-2, 7, AND 10 UNDER 35 U.S.C. 112, 1ST PARAGRAPH, SHOULD BE REVERSED.

The nonenablement rejection of claims 1-2 and 7 should be reversed because the proper test for enablement has not been applied in the present case. Section 2164 of the MPEP only requires that the "information contained in the disclosure of an application must be sufficient to inform those skilled in the relevant art how to both make and use the claimed invention." The test for whether or not this requirement has been met was stated by the United States Supreme Court in Mineral Separation v. Hyde, 242 U.S. 261, 270 (1916), where the Court declared that the claims of an application are only nonenabled when the experimentation needed to practice the invention is undue or unreasonable. See Id. In the present case, however, the rejection has not even asserted that any undue experimentation is required to practice the present invention.

Section 2164.01(a) lists several factors that should be considered to determine whether undue experimentation is required to practice a claimed invention. Among these factors are: (A) the breadth of the claims; (B) the nature of the invention; (C) the state of the prior art; (D) the level of one of ordinary skill; (E) the level of predictability in the art; (F) the amount of direction provided by the inventor; (G) the existence of working examples; and (H) the quantity of experimentation needed to make or use the invention based on the content of the disclosure. In the present case, however, none of these factors have been given consideration on the record.

The rejection does not challenge either of the breadth of the claims or the nature of the present invention. The state of the prior art and the level of one of ordinary skill in that art also do not appear to have been analyzed with respect to this rejection, which is a considerable oversight considering the fact that the cited art of record appears to directly challenge the rejection. Regarding the other listed factors, pages 8-9 of the present invention describe several working structural examples (page 8, lines 22-28, Figs. 15A-C), how to make such examples (page 8, line 29 through page 9, line 9), how to vary their structure (page 9, lines 10-13), and some of their exhibited magnetic properties (page 9, lines 19-27). The outstanding Section 112 rejection is therefore deficient because it fails to assert that any of these detailed working examples requires additional undue experimentation by one of ordinary skill in the art to realize the limitations of the present claims.

Moreover, Section 2164 of the MPEP codifies the principle stated many times by the Federal Circuit that a "patent need not teach, *and preferably omits,* what is well known in the art." (Emphasis added). The cited Iwasaki reference, for example, devotes a significant portion of its disclosure on how to measure, control, and achieve an anisotropy magnetic field Hk. The outstanding rejection though, fails to assert that the phrase "anisotropy magnetic field" in claim 1 is used in any way inconsistently with its use in the prior art. The description on pages 1 through 4 of the present Specification also provides significant details regarding an anisotropy magnetic field. One skilled in the art should easily be able to practice the invention of claim 1 in light of all of these teachings.

The Section 112 rejection is also inappropriate because it does not appear to consider the actual language of claim 1. The record shows several instances of the Examiner stating that the present Specifications fails to "*control* the anisotropy magnetic field." (Page 2, line 8 of the Advisory Action mailed December 15, 2006, for example, emphasis added). Claim 1 of the present invention though, does not recite a "control" of the anisotropy magnetic field. Such language would amount to a process limitation, and would add little patentable weight to the structure and properties of the apparatus recited in claim 1. *Control* of the anisotropy magnetic field is irrelevant to the present claims. The only appropriate test was whether or not undue experimentation would be required of one of ordinary skill in the art, when reading claim 1 in light of the disclosure, to realize the recited claim features. Because no evidence appears on the record that any such undue experimentation was or is required, the Board is respectfully requested to reverse this rejection.

II. THE REJECTION OF CLAIMS 17-18 UNDER 35 U.S.C. 102(b) AS BEING ANTICIPATED BY IWASAKI SHOULD BE REVERSED.

The rejection of claims 17 and 18 based on Iwasaki should be reversed because Iwasaki does not teach all of the recited limitations of claims 17 and 18 considered as a whole. The rejection merely picks and chooses various features from unrelated embodiments in Iwasaki, and then attempts to combine these unrelated features in what essentially amounts to an obviousness rejection within this single reference. A *prima facie* case of neither anticipation nor obviousness, however, has been established against claims 17 and 18.

Iwasaki fails to teach (or suggest) any single embodiment having two or more nonmagnetic layers and two or more magnetic layers, where each of the nonmagnetic layers includes an element from the selected group recited in claim 17, and where the saturated magnetic field is 0.8kA/m or more. To find all of these recited features, the rejection actually cites to three separate and mostly unrelated embodiments from the reference. The rejection fails, however, to cite to where *the reference itself* teaches or suggests that these various unrelated elements should modified or interchangeable. More particularly, the rejection fails to explain how elements from one embodiment may be substituted into a different embodiment without changing the magnetic properties of the structure of the other embodiment. Claims 17 and 18 clearly feature magnetic properties as necessary elements of the apparatus.

The Examiner cites only Fig. 21 of Iwasaki for disclosing two or more magnetic layers with two or more nonmagnetic layers. Iwasaki never teaches, however, that that the intermediate layers 32, as cited by the Examiner, are actually nonmagnetic. Although Iwasaki teaches that the intermediate layers *are formed on* a pair of nonmagnetic substrates 31 (col. 14, lines 55-56), Iwasaki never teaches that the intermediate layers 32 are themselves nonmagnetic. One skilled in the art is well aware that many of the materials used in this field may be utilized in magnetic or nonmagnetic applications/layers. Accordingly, for at least these reasons, the anticipation rejection of claim 17 is deficient, and Appellants respectfully request that it be reversed.

Moreover, the anticipation rejection of claim 17 is further deficient because Iwasaki never teaches any material composition to its intermediate layers 32 (as applied to cited Fig. 21 of the reference). The Examiner only asserts that the *different* embodiment disclosed in Fig. 20 – where Cr can comprise the single interlayer 23 – may be incorporated into the multiple layer structure shown in Fig. 21. Iwasaki, however, provides no teachings (or suggestions) that the same materials from Fig. 20 will be equally applicable to the multiple layer structure of Fig. 21 without changing the other structure's magnetic characteristics. Additionally, the text accompanying Fig. 20 (col. 14, lines 32-41) also fails to teach that the interlayer 23 is nonmagnetic. In essence therefore, the Examiner is proposing an "obviousness" combination based on the two different embodiments in Iwasaki, but without justifying where the reference itself teaches the proposed combination. For at least these further reasons, the rejection of claim 17 should be reversed.

The rejection of claim 17 based on Iwasaki should still further be reversed because neither embodiment from Figs. 21 or 20 of Iwasaki teach (or suggest) a saturated magnetic field of 0.8kA/m or more, as also featured in claim 17. It should be noted that the rejection of claims 17 and 18 does not even assert that Iwasaki teaches such features. The only assertion that Iwasaki teaches such a saturated magnetic field appears on page 7, paragraph 9, of the Office Action mailed February 16, 2006. However, the alleged source for these features of the present invention comes from yet a *third* separate embodiment, namely, as shown in Figs. 24 and 25, and the accompanying text at col. 16, lines 51-55.

Figs. 24 and 25 of Iwasaki, however, show that this embodiment does not relate to either of embodiments shown in Figs. 21 or 20. Figs. 24 and 25 only apply to "Example 8" of Iwasaki, which has a different structure from either of the other two cited embodiments. The structure of Example 8 is described to have only a single magnetic film and a single Cr layer. Nowhere does Iwasaki teach (or suggest) that a saturated magnetic field range from this embodiment will remain constant when multiple magnetic layers and nonmagnetic layers are added. It should also be noted that Example 8 also fails to teach (or suggest) that the single Cr layer is nonmagnetic. Accordingly, none of the three cited embodiments from Iwasaki teach or suggest all of the recited features of claim 17 of the present invention.

The Examiner thus appears to be basing this rejection on the theory that, just because various features of the present claims may be described somewhere within the same prior art reference, that any feature from any such embodiment may be automatically combined with any feature from another embodiment. Such a theory is unsound.

It is well known that many different embodiments in a single reference can be entirely exclusive of other embodiments in the same reference. The features from one embodiment may not be automatically incorporated into another embodiment without some clear teaching or suggestion to do so. Without any such clear direction from the reference, the Examiner is necessarily modifying the embodiments shown. The standard for modifying a reference though, is the same as combining elements from different elements.

Section 2143.01 of the MPEP codifies the law that requires that the art itself (without any extrinsic evidence on the record) must teach or suggest the proposed modification. In the present case, the Examiner is necessarily making several modifications to Iwasaki's embodiments to be able to combine their different elements. The record, however, is silent regarding how and why all of these modifications may be incorporated together into a single embodiment. Accordingly, Appellants respectfully request that this Board again reverse the rejection of claim 17 based only upon Iwasaki.

With respect to claim 18 specifically, this Board should also reverse the anticipation rejection because the Examiner even admits that Iwasaki fails to expressly teach the recited residual stress range of this claim. The Examiner merely insists that the range must be "inherent" because "the Patent Office is not capable of performing the measurements to confirm the property ranges of prior art inventions." The Examiner has therefore clearly misstated the standard to establish inherency. An Examiner may not simply declare that a given apparatus inherently exhibits all of the properties of another apparatus based only upon the fact that the Examiner cannot measure them. Before inherency may even be considered, the Examiner first has the burden to establish that the claimed invention and the prior art are "substantially identical" in every structural and material characteristic. As discussed above, this particular burden has not been met.

Additionally, even the Examiner admits that Iwasaki is silent regarding *any* residual stress on a film. Iwasaki never teaches or suggests, for example, how high a stress

range is tolerable, or how low a stress range may be achieved. The Examiner asserts that a lower stress range is preferable, but Iwasaki still fails to teach or suggest what stress range is actually possible. In any event, inherency may not even be established by "probabilities or possibilities" only. The record must contain some evidence that the recited features of the claims must be present in the examples cited. In the present case, this requirement has clearly not been met, and a case for inherency has not been established on the record.

With respect to the Examiner's alternative theory of obviousness, Section 2143.03 of the MPEP still requires that the reference itself must teach or suggest the claimed limitation. In this case, the claimed limitation is the specific range of values for the residual stress on the film, and not merely a desire to "lower the stress," as improperly considered by the Examiner. Accordingly, for at least these reasons, Appellants respectfully request that the Board reverse the specific rejection of claim 18 based only on Iwasaki as well.

III. THE REJECTION OF CLAIMS 1 AND 17 UNDER 35 U.S.C. 102(b) AS BEING ANTICIPATED BY SAITO SHOULD BE REVERSED.

The anticipation rejection of independent claims 1 and 17 based only on Saito should be reversed because a *prima facie* case of anticipation has not been established for this rejection either. Saito does not teach or suggest the specific combination of materials and magnetic properties for the magnetic and nonmagnetic layers of the present invention.

With respect to claim 1 specifically, although the cited portions of the reference teach a magnetic layer including Fe and Co, the reference is silent regarding any anisotropy

magnetic field, and particularly one of 0.8kA/m or more, as recited in claim 1 of the present invention. Magnetic properties and characteristics of the particular structure of the present invention may not be presumed. Fig. 2 of Saito, for example, clearly demonstrates that where only Cu is utilized for a nonmagnetic layer, the *saturated* magnetic field will vary widely according to the thickness of the Cu layer. And this wide variance is only for the *saturated* magnetic field. Saito is entirely silent regarding the parameters of an anisotropy magnetic field with the Cu layer. The reference provides no direction to one of ordinary skill in the art for the values of an anisotropy magnetic field. Accordingly, Appellants respectfully request that the Board the Section 102 rejection of claim 1 based on Saito for at least these reasons.

With respect to claim 17 specifically, the rejection is deficient for failing to distinguish between the differences between the recited limitations of independent claims 1 and 17 of the present invention. For example, unlike claim 1, Cu is not a recited element of the nonmagnetic layers of claim 17, but the cited portions from Saito only show a saturated magnetic field where Cu is the material of the nonmagnetic layer. Although the Examiner is correct that Saito teaches that other metals may be used for the nonmagnetic layer (col. 7, lines 48-50), Saito never describes what the saturated magnetic field will be when such other metals are utilized. Again, when only Cu is utilized the saturated field is shown to vary widely. Saito provides no direction to one of ordinary skill in the art that any of the other possible metals used for the nonmagnetic layers will achieve the same saturated field values as Cu, or more particularly, values that necessarily read upon claim 17.

Although the Examiner has not asserted that the other potential nonmagnetic layer materials will *inherently* achieve a saturated magnetic field according to the parameters recited in claim 17 of the present invention, inherency could not be applied in the present case. At most, the saturated magnetic field values for these different materials could only be theoretical possibilities. As discussed above though, inherency may not be established based only upon probabilities or possibilities. Accordingly, because these specific limitations from claim 17 are clearly missing from the reference, and because inherency cannot be established with respect to claim 17, Appellants respectfully request that the Board reverse the final rejection of claim 17 based on Saito as well.

IV. THE REJECTION OF CLAIM 18 UNDER 35 U.S.C. 103(a) AS BEING UNPATENTABLE OVER IWASAKI IN VIEW OF OSAKA SHOULD BE REVERSED.

A. The Proposed Combination of References Fails to Teach or Suggest All of the Recited Limitations of Claim 18.

The obviousness rejection of claim 18 is deficient on its face for failing to indicate where any portion of either cited reference teaches or suggests the specific parameter range for residual stress recited in the claim. The final rejection of this claim erroneously asserts that Osaka teaches to keep the residual stress "near 0." Osaka, however, never makes any statement even remotely related to this assertion by the Examiner. Instead, Osaka only describes how, *in excess of a specific range of current density*, "the film stress is increased, making it difficult to obtain a film of uniform quality" (col. 5, lines 56-62).

Although the Examiner is partially correct that Osaka teaches to *avoid an increase* in film stress, Osaka only teaches to avoid such an increase in excess of the featured current density range. Osaka is entirely silent regarding what the actual film stress is in the featured current density range. There is simply no teaching or suggestion within the reference that the *existing* amount of film stress for the desirable current density range is even within the parameters recited in claim 18 of the present invention. The mere avoidance of increased stress for a particular range of current density is in no way equivalent to the specific range of residual film stress required in claim 18, and the Examiner's statements regarding the teachings of the reference are thus clearly erroneous. Accordingly, Appellants respectfully submit that this Board should find that the obviousness rejection of claim 18 based on a combination of Iwasaki with Osaka is deficient on its face, and should be reversed for at least these reasons.

B. The Rejection Fails to Cite to any Teaching or Suggestion From the References That Affirmatively Indicates the Desirability of the Proposed Combination.

The rejection of claim 18 based on a combination of Iwasaki and Osaka should also be reversed because the record does not cite to any teaching or suggestion from either reference (no extrinsic evidence appears on the record) that indicates the desirability of making the actual combination proposed. To support the proposed combination, the Examiner has only cited to col. 5, lines 60-62 of Osaka for allegedly teaching "the

importance of controlling the magnitude of the stress in a film to be near 0 in order to ensure films of uniform quality." As described above, however, Osaka never teaches or suggests anything relating to keeping the stress in a film "to be near 0."

Osaka merely teaches to avoid an increase in film stress for a specific range of current density, and for a particular structural embodiment. Nothing in the brief portion of text cited from Osaka though, teaches or suggests that the particular current density range and structural embodiment are the same as, or even applicable to, the particular embodiments cited from Iwasaki (or the present invention). The cited portion from Osaka therefore, is irrelevant to the proposed *combination* of the two references. As discussed above, Section 2143.01 of the MPEP requires that the art itself must teach or suggest the desirability of making the actual combination proposed by the Examiner. The cited motivation in the art must pertain to the actual combination, and not merely to the desirability of particular features of one reference in the context of only that reference. In the present case, these requirements of Section 2143.01 have not been met.

To justify the proposed combination, the Examiner has only cited to a portion of the Osaka reference that describes a current density range and structural composition that are applicable only to Osaka's own disclosure. No explanation appears on the record for how teachings that pertain to only this limited embodiment in one reference can be, or should be, applied to the very different embodiments in the other reference. In other words, the rejection only points to a motivation to utilize Osaka's own apparatus. The record does not

indicate any motivation, however, to combine these teachings with any other reference. Accordingly, Appellants respectfully request that the Board reverse the final rejection of claim 18 based on a combination of Iwasaki and Osaka for at least these reasons as well.

V. THE REJECTION OF CLAIM 19 UNDER 35 U.S.C. 103(a) AS BEING UNPATENTABLE OVER IWASAKI IN VIEW OF KAMIGUCHI AND INOUE SHOULD BE REVERSED.

A. The Proposed Combination of References Does Not Teach or Suggest All of the Required Elements of Claim 19.

Similar to the deficiencies in the rejection of claim 18, above, the present rejection is also deficient for failing to teach or suggest the combination of each and every feature and limitation of claim 19. Specifically, none of the three cited references describe any range of surface roughness for the particular structure of claim 19 that requires multiple magnetic and nonmagnetic layers, as well as the particular range recited for the saturated magnetic field. The Examiner admits that Iwasaki is silent regarding any surface roughness features, and instead relies only upon Kamiguchi and Inoue for allegedly teaching such features. Neither Kamiguchi nor Inoue, however, supports the Examiner's reliance in this regard.

With respect to Kamiguchi, the Examiner's assertion that the reference teaches, at col. 9, line 26 though col. 10, line 20, to control the surface roughness "to magnitudes of less than 1 nm" is clearly erroneous. Nowhere in this cited portion is the actual magnitude of

surface roughness even discussed. The rejection is therefore critically flawed for at least this reason.

The rejection is further flawed because the embodiment described by Kamiguchi at cols. 9-10 is not even applicable to the multiple magnetic/nonmagnetic layers required by claim 19 of the present invention. The mere "control of the surface roughness" of the particular embodiment cited from Kamiguchi is irrelevant to the specific range of surface roughness required by the different material structure of claim 19. Kamiguchi fails to teach or suggest any such similar structure, and therefore Kamiguchi is incapable of teaching or suggesting what possible ranges of surface roughness can even be achieved for such a different structure, let alone what the actual values for this surface roughness would be.

Kamiguchi further contradicts the Examiner's additional assertion that the actual range of surface roughness is merely "a results effective variable" that may be derived "through routine experimentation." Kamiguchi specifically teaches that the surface roughness "largely effects the magnetic characteristics" of the layered film (col. 9, lines 28-39), and claim 19 of the present invention expressly recites magnetic characteristics as a required limitation. The Examiner has provided no explanation for how his proposed "routine experimentation" could achieve any particular desired amount of surface roughness, yet still stay within the range of magnetic characteristics required in claim 19.

The majority of Kamiguchi's disclosure thus contradicts the Examiner's assertion that surface roughness is merely a "results effective variable." Nowhere does

Kamiguchi teach or suggest that any "routine experimentation" can arrive at the particular levels of control of surface roughness sought by Kamiguchi's various embodiments. The rejection fails to submit any other evidence to support the erroneous assertion that surface roughness of any particular value can be arrived at merely through routine experimentation.

The rejection's additional reliance on the Inoue reference is also inappropriate. The Examiner asserts that Inoue teaches "the importance of controlling the surface roughness for both MR applications (*as in Kamiguchi et al.*) and metal-in-gap (MiG) head applications (*as in Iwasaki et al.*)." (Emphasis in original). The mere "control of surface roughness," however, fails to teach or suggest any specific range to which the surface roughness can be limited, as clearly featured in claim 19 of the present invention.

The cited portions of Inoue therefore have no relevance to the specific structure and magnetic characteristics featured in claim 19 of the present invention. Inoue fails to teach or suggest that surface roughness can be limited to less than 2 nm for the particular embodiment claimed in claim 19. The Examiner's personal opinion, that such parameters can simply be derived through routine experimentation, is not objective evidence on the record, which is required to support such a conclusion. No matter how sophisticated the Examiner's personal rationale may be, the record still requires objective evidence, capable of review and rebuttal. Accordingly, for at least these reasons, as well as those discussed above, Appellants respectfully request that the Board further reverse this rejection of claim 19.

B. The Rejection Fails to Cite to Any Teaching or Suggestion From the Prior Art References to Justify the Proposed Combination.

The proposed combination of Iwasaki with either of Kamiguchi and/or Inoue is particularly deficient according to the express requirements of Section 2143.01 of the MPEP. Similar to the deficiency in the proposed combinations discussed above, the cited portions of the references fail to relate to the desirability of the proposed combination, as opposed to the desirability of one feature of one reference within the context of only its own disclosure. None of the embodiments cited from the three different references, for example, have the same structure and characteristics as the embodiments from the other two references. The mere fact that Inoue teaches to control the surface roughness for different applications does not justify how the particular features of one reference can be combined with the other, when all of the cited embodiments are so clearly different.

Those of ordinary skill in this field of art are well aware that a change in the structure, materials, and/or magnetic characteristics of a layered film can significantly affect other characteristics or features of the film. Features from one embodiment may not simply be substituted into a different embodiment without taking into consideration the necessary changes that will result from such a substitution. In the present case, no such consideration appears to have been given to the results of the Examiner's proposed modifications to and combinations of the various embodiments.

As discussed above, Section 2143.01 of the MPEP forbids proposed combinations of references and modifications to a reference without some clear teaching or suggestion from the references themselves (absent any extrinsic evidence on the record) to make the proposed combinations/modifications. Obviousness will not be established from such unsupported manipulations of the prior art teachings. Such arbitrary manipulation of the teachings of the prior art meets the very definition of "impermissible hindsight." Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 19 based on the combination of Iwasaki, Kamiguchi, and Inoue for at least these reasons as well.

VI. THE REJECTION OF CLAIM 20 UNDER 35 U.S.C. 103(a) AS BEING UNPATENTABLE OVER IWASAKI IN VIEW OF SUN SHOULD BE REVERSED.

The rejection of claim 20 is also deficient for reasons similar to those discussed above with respect to the other proposed combinations of references. The Examiner even admits that Iwasaki fails to teach or suggest the magnetic flux density limitations of claim 20, and relies only upon Sun for allegedly teaching such features. The Examiner's reliance upon Sun, however, is clearly misplaced, because the language of claim 20 of the present invention excludes the embodiments cited from Sun.

Although Sun does teach FeCo layers sandwiched between "two very thin permalloy layers," the permalloy layers cannot read upon the nonmagnetic layers of the present invention. First, Sun fails to teach or suggest that the permalloy layers are even

nonmagnetic. Second, the only example of a permalloy layer described by Sun appears at page 2507, col. 2, which indicates the FeNi underlayer and overlayer. FeNi, however, is not among the elements recited in the group featured in claim 20 (by independent claim 17). Sun therefore, is clearly inapplicable to the present invention.

The proposed combination of Sun with Iwasaki therefore, is also flawed. The embodiments cited between the two references are not the same and, as discussed above, the record does not reflect any evidence to support the Examiner's opinion that such different embodiments may be simply merged together without consideration of the necessary effects of the modifications to the different embodiments. Moreover, the record is silent regarding how Sun *could* even be combined with Iwasaki, let alone any teaching or suggestion from the references that they should be combined.

The Examiner merely cites one statement from Sun that "high values of Bs are required for high areal (sic) recording density applications." No portion of the cited reference, however, teaches or suggests that such high values are always required for any type of application, in particular the very different application described by Iwasaki. There is simply no teaching or suggestion within either reference that, by substituting the different materials and structures required by Iwasaki, Sun's examples will demonstrate the same "high saturization magnetization" asserted by the Examiner.

It must also be noted that Sun is specifically described on page 3 of the present Specification in the "Background of the Invention," along with the specific disadvantages

experienced with respect to the reference, and how the present claims serve to overcome such advantages. These advantages of the present claims are undisputed on the record, yet the nonobviousness of utilizing Sun's teachings based on this clear description appears to have been ignored in the present case. The disadvantages of the prior art described in the present Specification are part of the record for which the Examiner is required to consider.

The rejection of claim 20 therefore, cannot be justified by only the Examiner's own personal belief that modifications and combinations can easily be made to the prior art. The references themselves (absent any extrinsic evidence on the record) must teach or suggest the actual combination. Because no such teaching or suggestions appear in the references, Appellants respectfully request that the Board reverse the rejection of claim 20 based on a combination of Iwasaki and Sun for these reasons as well.

VII. THE REJECTION OF CLAIMS 2, 10, 18, AND 20 UNDER 35 U.S.C. 103(a) AS BEING UNPATENTABLE OVER SAITO IN VIEW OF OSAKA AND SUN SHOULD BE REVERSED.

This rejection appears to be identical to the separate rejections based on the individual combinations of Iwasaki with Osaka or Sun, discussed above, except for only the substitution of Saito for Iwasaki as the base reference. The deficiencies in this rejection are therefore the same as those discussed above since the Examiner expressly admits that Saito – just as with Iwasaki – fails to teach or suggest the residual stress range featured in claims 2 and 18 of the present invention, or the total saturation magnetic flux density featured in

claims 10 and 20. Only Sun and Osaka are again individually relied upon for allegedly teaching these additional limitations of the dependent claims. As sufficiently described above though, the reliance upon these two references is misplaced.

The proposed combination of either/both of these references with Saito is also deficient according to the express requirements of Section 2143.01 of the MPEP. Like Iwasaki, Saito features embodiments that are different from those described in the cited portions of Osaka and Sun. There is no teaching or suggestion in any of the three references for how the structural, material, and magnetic characteristics of an embodiment from one reference can be merely substituted into the very different embodiments featured in the other references. Such substitutions are necessary modifications of the various references which, as also discussed above, are forbidden by Section 2143.01 without affirmative teachings or suggestions within the references themselves. Accordingly, Appellants respectfully request that the Board reverse the rejection of claims 2, 10, 18, and 20 based on the combination of Saito, Osaka, and Sun, for at least these reasons as well.

VIII. THE REJECTION OF CLAIMS 7-19 UNDER 35 U.S.C. 103(a) AS BEING UNPATENTABLE OVER SAITO IN VIEW OF KAMIGUCHI SHOULD BE REVERSED.

This rejection is essentially identical to the obviousness rejection based on a combination of Iwasaki with Kamiguchi, also discussed above. The only difference in this rejection is the substitution again of Saito for Iwasaki as the base reference. And as with the

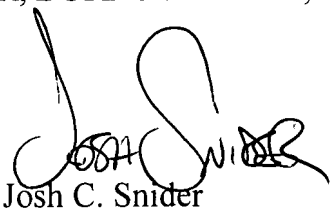
rejection based on Iwasaki, the Examiner expressly admits that Saito also fails to disclose any surface roughness for the film, again relying on only upon Kamiguchi for allegedly teaching such features. As discussed above, however, the Examiner's assertions regarding the teachings of Kamiguchi, namely, the "magnitudes of less than 1 nm," are clearly erroneous. There is no affirmative teaching or suggestion within either reference, taken alone or together, that surface roughness can be held to the specific range featured in claims 17 and 19 for the specific embodiments claimed therein.

The embodiments cited from Saito and Kamiguchi are not the same, and no teaching or suggestion from either reference has been cited to justify the modifications that will be necessary to incorporate the very different features from one reference into the other. Without affirmative teachings or suggestions to make such modifications, the rejection demonstrates an impermissible use of hindsight, by definition. Section 2143.01 forbids such unsupported modifications to, and combinations of, references. Accordingly, Appellants respectfully request that the Board reverse the rejection of claims 17-19 based on a combination of Saito and Kamiguchi as well.

For all of the foregoing reasons, Appellants respectfully request that this Board reverse the Examiner's final rejections of claims 1-2, 7, 10, and 17-20 of the present Application, and further find that these claims warrant patent protection.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By 
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CLAIMS APPENDIX

1. (Previously Presented) A laminated magnetic film for a magnetic head, comprising:

a nonmagnetic layer including at least one selected from a group consisting of Ru, Rh, Ir, Cu, Au, Ag, Pt and Pd; and

a magnetic layer including Fe and Co,

wherein an anisotropy magnetic field is 0.8 kA/m or more.

2. (Previously Presented) The laminated magnetic film according to claim 1, wherein the saturation magnetic flux density has uniaxial magnetic anisotropy, and

residual stress in said film is between approximately –0.5 Gpa and +0.5 Gpa.

3-6. (Cancelled)

7. (Previously Presented) The laminated magnetic film according to claim 1, wherein roughness of the surface of said magnetic layer is 2 nm or less.

8-9. (Cancelled)

10. (Previously Presented) The laminated magnetic film according to claim 1, wherein total saturation magnetic flux density is 2.0T or more.

11-16. (Cancelled)

17. (Previously Presented) A multilayered film for a magnetic head, comprising:

two or more nonmagnetic layers; and

two or more magnetic layers,

wherein each of the nonmagnetic layers includes at least one element selected from a group of Ru, Rh, Ir, Cr, Au, Ag, Pt and Pd,

wherein each of the magnetic layers includes Fe and Co, and

wherein a saturated magnetic field is 0.8 kA/m or more.

18. (Previously Presented) The multilayered film according to claim 17, herein the saturation magnetic flux density has uniaxial magnetic anisotropy, and

residual stress in said film is between approximately –0.5 Gpa and +0.5Gpa.

19. (Previously Presented) The multilayered film according to claim 17, wherein roughness of the surface of said film is 2nm or less.

20. (Previously Presented) The multilayered film according to claim 17, wherein total saturation magnetic flux density is 2.0T or more.

EVIDENCE APPENDIX

None

RELATED PROCEEDINGS APPENDIX

None